09/30/2005

Amendments to the Claims:

1. (Cancelled).

2. (Previously Presented) The method as set forth in claim 3, wherein the device identification is selected from the group consisting of a unique device identification of the first device, a unique device identification of the second device, a device address of the first device, and a device address of the second device.

3. (Previously Presented) A method comprising:

accessing in a first device a device identification and at least one key corresponding to the device identification, the at least one key is generated using both the device identification and a plurality of generation keys;

encoding data using the at least one key;

transmitting a message from the first device to the second device, the message comprising a header comprising the device identification and a data field comprising the encoded data; and

using the device identification received in the header of the message by said second device to determine the at least one key and decode the encoded data received in the data field of the message using the determined at least one key.

4. (Previously Presented) The method as set forth in claim 3, further comprising generating the at least one key using a multistage process wherein a different generation key of the plurality of generation keys is used at each stage to operate with the output of a prior stage, a first stage having as input the device identification, and a last stage outputting a key of the at least one key.

5. (Previously Presented) The method as set forth in claim 4, wherein a first stage of the multistage process is an Exclusive OR function, a second stage of the multistage process is a cipher function, and a third stage of the multistage process is an Exclusive OR function.

6. (Previously Presented) The method as set forth in claim 3, wherein the at least one key for encoding is selected from the group consisting of hashing and signing a message and encrypting a message.

7. (Previously Presented) The method as set forth in claim 3, wherein the device identification is a Media Access Control (MAC) address.

8. (Cancelled).

9. (Previously Presented) The device as set forth in claim 11, wherein a first communication device communicates with a second communication device and the device identification corresponds to the first communication device.

10. (Previously Presented) The device as set forth in claim 11, wherein the information comprises the at least one key and corresponding device identification.

11. (Previously Presented) A device comprising:

a non-volatile storage medium for storing information for at least one key corresponding to a device identification of a communication device, the information comprises generation keys, the generation keys concurrently used with the device identification to generate the at least one key;

a first logic to encode data using the at least one key and decode encoded data using the at least one key; and

an input/output to communicate encoded data in a message, the message including the device identification and the encoded data.

12. (Previously Presented) The device as set forth in claim 11, wherein the device is selected from the group consisting of a device to connect to a cable network, a direct broadcast satellite (DBS) device, a phone device, an internet device, a broadcast device and a set top box.

13. (Previously Presented) The device as set forth in claim 11, wherein the device comprises a service provider that communicates data with a second device, the device identification corresponding to the second device.

14. (Previously Presented) The device as set forth in claim 13, wherein the device is one of a cable provider headend, a DBS uplink, a digital subscriber line (DSL) center, or website and the second device is a set top box.

15. (Previously Presented) The device as set forth in claim 11, wherein the non-volatile storage medium is selected from the group consisting of FLASH memory, static random access memory (SRAM), hard disk media, memory stick, battery-backed RAM, fuses, nonvolatile removeable media and optical media.

16. (Previously Presented) The device as set forth in claim 11, further comprising a second logic, the second logic using the generation keys and the device identification to generate the at least one key.

17. (Previously Presented) The device as set forth in claim 16, wherein the second logic comprises:

a first sub-logic having as input the device identification and a first generation key of the generation keys, said first sub-logic generating a first output;

a second sub-logic having as input the first output and a second generation key of the generation keys, said second sub-logic generating a second output; and

a third sub-logic having as input the second output and a third generation key of the plurality of generation keys, said third sub-logic generation the at least one key as an output.

18. (Original) The device as set forth in claim 17, wherein the first sub-logic, second sub-logic and third sub-logic are functions selected from the group consisting of logic functions, combinatorial functions and cipher functions.

19. (Original) The device as set forth in claim 8, wherein the message is selected from the group consisting of hashing and signing a message and encryption.

20. (Cancelled).

21. (Previously Presented) The system as set forth in claim 23, wherein the second device communicates with a plurality of first devices, the non-volatile storage medium of the second device storing information for at least one key for each first device.

22. (Previously Presented) The system as set forth in claim 23, wherein the information comprises the at least one key and corresponding device identification.

23. (Previously Presented) A system comprising:

a first device comprising

a non-volatile storage medium for storing information for at least one key corresponding to a device identification of first device, the information comprises generation keys, the generation keys used with the device identification to generate the at least one key,

a first logic to encode data using the at least one key and decode encoded data using the at least one key, and

an input/output to communicate encoded data in a message, the message including the device identification of the first device and the encoded data;

a communication medium; and

a second device coupled to the first device through the communication medium, the second device comprising

a non-volatile storage medium for storing information for at least one key corresponding to a device identification of the first device,

a second logic to encode data using the at least one key and decode encoded data using the at least one key, and

an input/output to communicate encoded data in a message, the message including the device identification of the first device and the encoded data.

24. (Original) The device as set forth in claim 23, further comprising a second logic, the second logic using the generation keys and the device identification to generate the at least one key.

Allowed Claims
05/04/2005

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Cancelled).

2. (Currently Amended) The method as set forth in claim 3~~1~~, wherein the device identification is selected from the group consisting of a unique device identification of the first device, a unique device identification of the second device, a device address of the first device, and a device address of the second device.

3. (Currently Amended) A ~~The~~ method ~~as set forth in claim 1, wherein~~ comprising:

accessing in a first device a device identification and at least one key corresponding to the device identification, the at least one key is generated using both the device identification and a plurality of generation keys;

encoding data using the at least one key;

transmitting a message from the first device to the second device, the message comprising a header comprising the device identification and a data field comprising the encoded data; and

using the device identification received in the header of the message by said second device to determine the at least one key and decode the encoded data received in the data field of the message using the determined at least one key.

4. (Currently Amended) The method as set forth in claim 3, further comprising generating the at least one key using a multistage process wherein a different generation key of the plurality of generation keys is used at each stage to operate with the output of a prior stage, a first stage having as input the device identification, and ~~the~~ a last stage outputting a key of the at least one key.

5. (Currently Amended) The method as set forth in claim 4, wherein ~~each~~ a first stage of the multistage process is an Exclusive OR function, a second stage of the multistage process is ~~selected from the group consisting of~~ a cipher function, and a third stage of the multistage process is an Exclusive OR function~~, a mathematical function, a logic function, a function that complies with the Advance Encryption Standard (AES), a function that complies with the Data Encryption Standard (DES) and functions that comply with determined encryption standards~~.

6. (Currently Amended) The method as set forth in claim 3~~1~~, wherein the at least one key for encoding is selected from the group consisting of hashing and signing a message and encrypting a message.

7. (Currently Amended) The method as set forth in claim 3~~1~~, wherein the device identification is ~~selected from the group consisting of a unique device address, a unique device identification and~~ a Media Access Control (MAC) address.

8. (Cancelled).

9. (Currently Amended) The device as set forth in claim 11~~8~~, wherein a first communication device communicates with a second communication device and the device identification corresponds to the first communication device.

10. (Currently Amended) The device as set forth in claim 11~~8~~, wherein the information comprises the at least one key and corresponding device identification.

11. (Currently Amended) A ~~The~~ device ~~as set forth in claim 8, wherein~~ comprising:

a non-volatile storage medium for storing information for at least one key corresponding to a device identification of a communication device, the information comprises generation keys, the generation keys concurrently used with the device identification to generate the at least one key;

a first logic to encode data using the at least one key and decode encoded data using the at least one key; and

an input/output to communicate encoded data in a message, the message including the device identification and the encoded data.

12. (Currently Amended) The device as set forth in claim 118, wherein the device is selected from the group consisting of a device to connect to a cable network, a direct broadcast satellite (DBS) device, a phone device, an internet device, a broadcast device and a set top box.

13. (Currently Amended) The device as set forth in claim 118, wherein the device comprises a service provider that communicates data with a second device, the device identification corresponding to the second device.

14. (Currently Amended) The device as set forth in claim 13, wherein the device is one of a cable provider headend, a DBS uplink, a digital subscriber line (DSL) center, or website and the second device is a set top box.

15. (Currently Amended) The device as set forth in claim 118, wherein the non-volatile storage medium is selected from the group consisting of FLASH memory, static random access memory (SRAM), hard disk media, memory stick, battery-backed RAM, fuses, nonvolatile removeable media and optical media.

16. (Original) The device as set forth in claim 11, further comprising a second logic, the second logic using the generation keys and the device identification to generate the at least one key.

17. (Currently Amended) The device as set forth in claim 16, wherein the second logic comprises:

a first sub-logic having as input the device identification and a first generation key of the generation keys, said first sub-logic generating a first output;

a second sub-logic having as input the first output and a second generation key of the generation keys, said second sub-logic generating a second output; and

a third sub-logic having as input the second output and a third generation key of the plurality of generation keys, said third sub-logic generation the at least one key as an output.

18. (Original) The device as set forth in claim 17, wherein the first sub-logic, second sub-logic and third sub-logic are functions selected from the group consisting of logic functions, combinatorial functions and cipher functions.

19. (Original) The device as set forth in claim 8, wherein the message is selected from the group consisting of hashing and signing a message and encryption.

20. (Cancelled).

21. (Currently Amended) The system as set forth in claim ~~20~~23, wherein the second device communicates with a plurality of first devices, the non-volatile storage medium of the second device storing information for at least one key for each first device.

22. (Currently Amended) The system as set forth in claim ~~20~~23, wherein the information comprises the at least one key and corresponding device identification.

23. (Currently Amended) A system ~~The device as set forth in claim 20, wherein~~ comprising:

a first device comprising

a non-volatile storage medium for storing information for at least one key corresponding to a device identification of first device, the information comprises generation keys, the generation keys used with the device identification to generate the at least one key,

a first logic to encode data using the at least one key and decode encoded data using the at least one key, and

an input/output to communicate encoded data in a message, the message including the device identification of the first device and the encoded data;

a communication medium; and

a second device coupled to the first device through the communication medium, the second device comprising

a non-volatile storage medium for storing information for at least one key corresponding to a device identification of the first device,

a second logic to encode data using the at least one key and decode encoded data using the at least one key, and

an input/output to communicate encoded data in a message, the message including the device identification of the first device and the encoded data.

24. (Original) The device as set forth in claim 23, further comprising a second logic, the second logic using the generation keys and the device identification to generate the at least one key.